

Patent Abstracts of Japan

PUBLICATION NUMBER : 2002372668
PUBLICATION DATE : 26-12-02

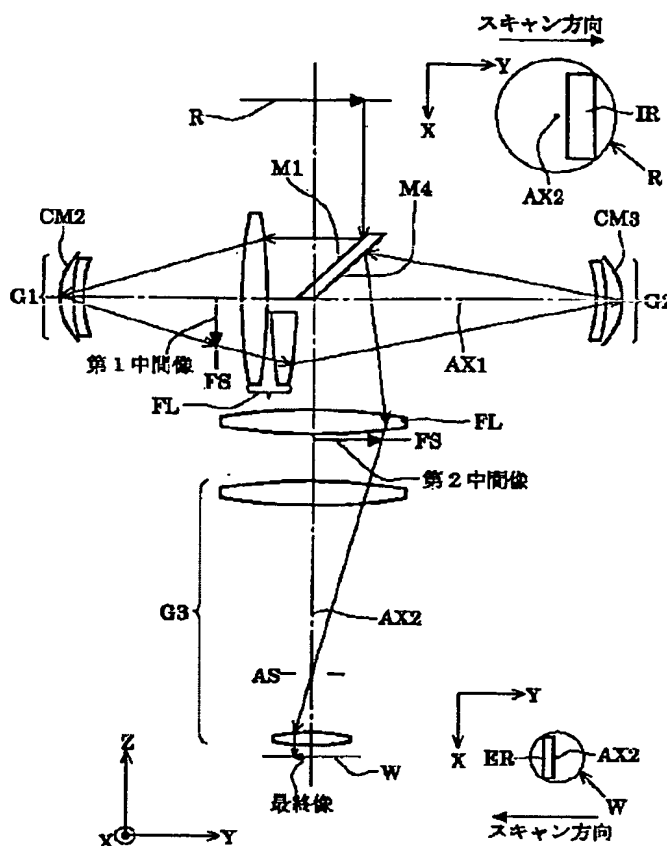
APPLICATION DATE : 14-06-01
APPLICATION NUMBER : 2001179579

APPLICANT : NIKON CORP;

INVENTOR : TAKAHASHI YUTO;

INT.CL. : G02B 17/08 G02B 13/14 G02B 13/18
G03F 7/20 H01L 21/027

TITLE : CATADIOPTRIC SYSTEM AND
EXPOSURE DEVICE HAVING THIS
CATADIOPTRIC SYSTEM



ABSTRACT : PROBLEM TO BE SOLVED: To provide a catadioptric system which is small in the distance between an object surface and an image surface, has a simple constitution of a small number of lens elements, is capable of achieving high resolution of $\leq 0.1 \mu\text{m}$ by using light of a vacuum UV wavelength of, for example, $\leq 180 \text{ nm}$.

SOLUTION: This catadioptric system has a first imaging optical system (G1) which has a concave mirror (CM2) and a plane reflecting mirror (M1) and forms the first intermediate image of the first surface in accordance with the light from the first surface (R), a second imaging optical system (G2) which has a concave mirror (CM3) and a plane reflecting mirror (M4) and forms the second intermediate image of the first surface in accordance with the light through the first imaging optical system and the third imaging optical system (G3) of a refraction type which forms the final image of the first surface on the second surface (W) in accordance with the light through the second imaging optical system.

COPYRIGHT: (C)2003,JPO